IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Original): An ultrasonic vibration element comprising:

a single-crystal piezoelectric member cut like an array; and

at least one of an upper resin layer formed on an upper surface of the piezoelectric member and having smaller acoustic impedance than the piezoelectric member, and a lower resin layer formed on a lower surface of the piezoelectric member and having smaller acoustic impedance than the piezoelectric member, wherein

the at least one of the upper resin layer and the lower resin layer has an excellent cutting characteristic and conductivity and functions as an electrode.

Claim 2 (Original): An ultrasonic probe comprising an ultrasonic vibration element constructed by a 1-3 or 2-2 type composite piezoelectric member including a piezoelectric member formed of solution-based single-crystal containing at least plumbum titanate, and at least one of an upper resin layer formed on an upper surface of the piezoelectric member and having smaller acoustic impedance than the piezoelectric member, and a lower resin layer formed on a lower surface of the piezoelectric member and having smaller acoustic impedance than the piezoelectric member, wherein

the at least one of the upper resin layer and the lower resin layer has an excellent cutting characteristic and conductivity and functions as an electrode.

Claim 3 (Original): The probe according to claim 2, wherein the at least one of the upper resin layer and the lower resin layer has acoustic impedance of 2×10^6 g/m^2 to 10×10^6 g/m^2 and functions as an acoustic matching layer.

Claim 4 (Withdrawn) A method of manufacturing an ultrasonic probe, comprising:

a first step of forming a resin layer on at least one of upper and lower surfaces of a single-crystal piezoelectric member, the resin layer having smaller acoustic impedance than the single-crystal piezoelectric member;

a second step of cutting the single-crystal piezoelectric member and the resin layer, thereby to form a plurality of kerfs; and

a third step of filling the plurality of kerfs with resins.

Claim 5 (Withdrawn): The method according to claim 4, wherein the plurality of kerfs are formed like a grid in the second step.

Claim 6 (Withdrawn): The method according to claim 4, further comprising a fourth step of polishing the resin layer to remove the resin layer.

Claim 7 (Withdrawn): A method of manufacturing an ultrasonic probe, comprising:

a first step of adhering a plurality of single-crystal piezoelectric members to a resin sheet;

a second step of cutting the piezoelectric single-crystal members and the resin sheet, thereby to form a plurality of kerfs; and

a third step of filling the plurality of kerfs with resins.

Claim 8 (Currently Amended): An ultrasonic probe comprising:

a plurality of piezoelectric members formed of solution-based single-crystal containing at least plumbum titanate, and arranged like an array;

a first electrode formed on a lower surface of each of the piezoelectric members;

a backing member supporting the plurality of piezoelectric members; and

a first flexible printed wiring board ~~having a plurality of pattern wires each having a width smaller than a width of each of the piezoelectric members in an array direction, extending in a longitudinal direction of each of the piezoelectric members, and configured to lead and connect an electric wire from each of the first electrode to an ultrasonic diagnosis~~

~~apparatus body~~ arranged between the first electrodes and the backing member, including a plurality of first pattern wires each having a width smaller than a width of each of the piezoelectric member in a longitudinal direction of the ultrasonic probe, extending in a longitudinal direction of each of the piezoelectric members and connected to the first electrode along the longitudinal direction of each of the piezoelectric members, and connecting the plurality of pattern wires to an ultrasonic diagnosis apparatus body.

Claim 9 (Currently Amended): The ultrasonic probe according to claim 8, further comprising:

a second electrode formed on an upper surface of each of the piezoelectric members; and

a second flexible printed wiring board ~~having~~ including a plurality of second pattern wires each having a width smaller than a width of each of the piezoelectric members in [an array direction] a longitudinal direction of the ultrasonic probe, and [configured to lead and connect an electric wire from each of the second electrode to ground] connecting the plurality of second pattern wires to ground.

Claim 10 (Withdrawn): A method of manufacturing an ultrasonic probe, comprising:

a first step of adhering a flexible printed wiring board and a single-crystal piezoelectric member to each other, the flexible printed wiring board having conductive layers each having a predetermined width, which are patterned in parallel on a resin member; and

a second step of cutting the flexible panted wring board and the single-crystal piezoelectric member together, along and between the conductive layers, thereby to form a piezoelectric vibration element array having a width smaller than a width of each of the conductive layers.

Claim 11 (Currently Amended): An ultrasonic probe comprising:

a plurality of piezoelectric members formed of solution-based single-crystal containing at least plumbum titanate, and arranged like an array;

a first electrode formed on a lower surface of each of the piezoelectric members;

a backing member supporting the plurality of piezoelectric members;

a first flexible printed wiring board ~~having a plurality of pattern wires each having a width smaller than a width of each of the piezoelectric members in an array direction, extending in a longitudinal direction of each of the piezoelectric members, and configured to lead and connect an electric wire from each of the first electrodes to an ultrasonic diagnosis apparatus body~~ arranged between the first electrodes and the backing member, including a plurality of first pattern wires each having a width smaller than a width of each of the piezoelectric member in a longitudinal direction of the ultrasonic probe, extending in a longitudinal direction of each of the piezoelectric members and connected to the first electrode along the longitudinal direction of each of the piezoelectric members, and connecting the plurality of first pattern wires to an ultrasonic diagnosis apparatus body;

a second electrode formed on an upper surface of each of the piezoelectric members; and

a second flexible printed wiring board including ~~having~~ a plurality of second pattern wires each having a width smaller than a width of each of the piezoelectric member in ~~an array direction~~ a longitudinal direction of the ultrasonic probe, and connecting a plurality of the second pattern wires ~~leading an electric wire from each of the second electrodes, and connecting the electric wire~~ to ground.

Claim 12 (New): An ultrasonic vibration element comprising:

a single-crystal piezoelectric member cut like an array; and

at least one of an upper resin layer formed on an upper surface of the piezoelectric member and having smaller acoustic impedance than the piezoelectric member, and a lower

resin layer formed on a lower surface of the piezoelectric member and having smaller acoustic impedance than the piezoelectric member, wherein

the at least one of the upper resin layer and the lower resin layer has an excellent cutting characteristic and conductivity and functions as an electrode and has an acoustic impedance of 2×10^6 g/m^2 to 10×10^6 g/m^2 and functions as an acoustic matching layer.

Claim 13 (New): An ultrasonic probe comprising:

an ultrasonic vibration element constructed by a 1-3 or 2-2 type composite piezoelectric member including,

a piezoelectric member formed of solution-based single-crystal containing at least plumbum titanate, and

at least one of an upper resin layer formed on an upper surface of the piezoelectric member and having smaller acoustic impedance than the piezoelectric member, and a lower resin layer formed on a lower surface of the piezoelectric member and having smaller acoustic impedance than the piezoelectric member, wherein

the at least one of the upper resin layer and the lower resin layer has an excellent cutting characteristic and conductivity and functions as an electrode and has acoustic impedance of 2×10^6 g/m^2 to 10×10^6 g/m^2 and functions as an acoustic matching layer.